



Luxembourg, 26/10/2022

## Environmental and Social Data Sheet

### Overview

Project Name: *DJIBOUTI WATER SUPPLY AND WASTEWATER TREATMENT*  
 Project Number: *20180309*  
 Country: *Djibouti*  
 Project Description: Project to improve drinking water and sanitation services for the capital city of Djibouti through the construction of Doraleh Desalination Plant, and Doraleh, Balbala and Douda wastewater treatment plants.

EIA required: yes

Project included in Carbon Footprint Exercise<sup>1</sup>: no

(details for projects included are provided in section: “EIB Carbon Footprint Exercise”)

### Environmental and Social Assessment

#### Environmental Assessment

The objective of the operation is, together with the EU in its support to the Government of Djibouti, to adapt to water provision services adverse climate change conditions through the implementation of the PEPER project (*Production d'Eau potable par dessalement et Énergie Renouvelable*). It consists of the design and construction of a desalination plant in the area of Doraleh. It will be implemented in two phases: i) Phase 1, with a production capacity of 22 500 m<sup>3</sup>/day, already completed and in operation, and ii) Phase 2, financed by the Bank, which will complete the works, bringing the total water production capacity to 45 000 m<sup>3</sup>/day and include a 12 MW photovoltaic power plant to co-power the desalination plant. Both phases are included in the perimeter of the project. The Project will support development of a high priority water supply infrastructure in one of the world's most water-stressed countries. The local context makes desalination the only option for increasing water security in the country.

The project will also support the Government of Djibouti in its challenge to fill the investment backlog in wastewater collection and treatment capacity in the capital. Two new wastewater treatment plants (WWTP) will be constructed in the areas of Balbala and Doraleh, with a capacity of 30 000 population-equivalent each. A third WWTP in the area of Douda will double its wastewater treatment capacity up to 80 000 population-equivalent. The project will also include new, associated wastewater collection networks.

The Promoter of the project is ONEAD (*Office National de l'Eau et de l'Assainissement de Djibouti*). The Promoter has shown good capacity in the management of E&S aspects in the preparation and implementation of recent projects financed by international IFIs.

Environmental protection and management is the responsibility of the Ministry of Housing, Urbanism and Environment (MHUE). On 11 March 2014, the Government of Djibouti adopted

<sup>1</sup> Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO<sub>2</sub>e/year absolute (gross) or 20,000 tonnes CO<sub>2</sub>e/year relative (net) – both increases and savings.



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Law n°54/AN/14/7th L on the reorganisation of MHUE, creating the *Direction de l'environnement et du développement durable (DEDD)*.

In application of Law n°51/AN/09/6ème L of 1st July 2009 on the Environment Code, the Decree n°2011-029/PR/MHUEAT of 24 February 2011 revising the environmental impact assessment procedure defines the scope of application and the modalities of execution of the environmental impact studies in Djibouti. A full environmental impact assessment may be required depending on the size and nature of the project. Activities subject to a full EIA are listed in an annex in the decree. According to *Section II. Social infrastructure*, sewage systems would require a full EIA, but not the desalination plant. Under the EIA Directive 2014/52/EU amending Directive 2011/92/EC, all project components would fall under Annex II, therefore, being subject to the decision of the competent authority. DEDD also ensures the monitoring during the phase of implementation.

A Strategic Environmental Assessment was carried out in the context of the elaboration of the Urban Master Plan for the city of Djibouti in 2014. Together with the feasibility study for the desalination plant, financed by the EU, an EIA was carried out in 2012. An EIA was also prepared for Balbala WWTP in 2017, in the context of the preparation of the Sanitation Master Plan for the city of Djibouti. EIAs will be also prepared for Douda and Doraleh WWTPs, in compliance with the national environmental framework. The Bank will ensure that the EIA of Doraleh WWTP, to be financed by its loan, is in line with the EIB E&S Standards.

#### *Key environmental issues*

None of the project components will be located in or will affect a protected area. The main environmental impacts of the desalination component identified in the EIA report, published on the EIB site, concerned the seawater intake and the brine discharge. The EIA report and ESMP included the accompanying mitigation measures to minimize expected negative impacts. Terms of Reference for a complimentary marine modelling study to the EIA report for the brine discharge were included in the document and carried out at a later stage. Negative impacts from the project sanitation component are expected to be minor acceptable with appropriate mitigation measures during the phase of construction and operation.

#### *Emissions from the power generation and EIB Carbon Footprint*

The annual energy consumption of the desalination plant is estimated to be in the order of 55 GWh, supported by a 12 MW photovoltaic (PV) power plant located adjacent and fully dedicated to the desalination facility. Almost 30% of the energy consumption is expected to be covered by the PV component. Energy consumption per cubic meter will be in line with the market's most advanced technology (3,2-3,4 kWh/m<sup>3</sup>). Taking into account the country's latest grid emission factor reported, the desalination plant would produce 23 246 tCO<sub>2</sub>e/year. However, given Djibouti's progressive decarbonisation of the electricity grid, in line with its objective to become 100% renewable by 2035, the project's absolute/relative Greenhouse Gas Emissions (GGE) are expected to be under the 20.000 t CO<sub>2</sub>e per year during the project economic lifetime. The annual GGE is expected to comply with the "Do no significant harm" threshold of 1080 g CO<sub>2</sub>e per cubic meter currently proposed for seawater desalination plants in the EU taxonomy for sustainable investment.

#### *Climate Risk Assessment*

Djibouti is considered as a highly vulnerable country to climate change impacts. Water resources currently exploited throughout the country are underground waters, estimated at around 20 million m<sup>3</sup> per year. It places Djibouti amongst the poorest countries in terms of



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freshwater resources, with less than 50m<sup>3</sup>/capita/year, compared with an average of 1,100m<sup>3</sup>/capita/year for the MENA region (Middle East and North Africa).

The risk of overexploitation of groundwater is largely the result of the increasing demand and limited recharge conditions of aquifers by rainfall. Studies and projections conclude that the combination of i) increased average temperatures, ii) shifting rainfall patterns, and iii) sea level rise, will reduce water quality and availability in the region. Concerning the desalination plant, the only parameter affected by climate change over time will be seawater level rise. The seawater collection reservoir operates by gravity and will thus not be negatively affected by this phenomenon. The rest of the infrastructure is well above any potential rise in seawater levels, built on a rocky plateau 7 metres above today's highest tides. The pumping capacity will not be affected by rising water levels. Wind and water temperature increases have been taken into consideration in the technical specifications of the equipment installed in Phase 1, which will also apply to Phase 2.

With regard to extreme weather conditions, all buildings are built to face winds with a 100-year return period. The project location is not affected by (rainfall induced) floods.

The desalination plant will contribute to Climate Adaptation by supporting investments that increase resilience to climate related risks.

### **Social Assessment, where applicable**

The project will improve access to drinking water supply and sanitation services, resulting in better public health, and hence the reduction of absenteeism from work and school. The project will avoid costs linked to the construction and maintenance of individual water storage and on-site sanitation facilities in the absence of public water and wastewater services. Improved water supply conditions will also bring about social benefits such as time savings from the avoided water collection chore from more distant sources (affecting mainly women and children). Finally, improved service levels will also create an enabling environment for economic activities in the project area. Negative social impacts are only temporary (e.g. occupation of public and private space, safety hazards during construction, traffic, noise). They will be addressed as part of the planning for the implementation of each component.

Due to the advanced progress of some components, most project sites are secured. No involuntary resettlement is expected for Doraleh WWTP. Part of the volumes of wastewater treated would be reused in agriculture, bringing additional benefit to the population.

Djibouti is member of the International Labour Organization since 1978 and signatory of eight fundamental ILO conventions, the two Occupational Safety and Health related conventions not yet ratified. Compliance with both labour and occupational health standards during construction and operation are part of the tender documentation, and thus will be part of their contractual obligations, under the supervision of the promoter and international consultants.

### **Public Consultation and Stakeholder Engagement**

Articles 15-27 of Decree n°2011-029/PR/MHUEAT of 24 February 2011 define different aspects of the EIA content concerning public consultation, participation and surveys. People of the areas affected by the project's desalination component, in particular Doraleh, Balbala and the port, were consulted as part of the preparation of the EIA.



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### **Other Environmental and Social Aspects**

Coral reef conditions will be monitored systematically over a section of at least 500 meters from the point of discharge at the level of the cliff and also adjacent to the pipe, as defined in the EIA.

### **Conclusions and Recommendations**

The project will have a positive social impact and will contribute to the country's adaptation to climate change conditions, in a water stressed area. It will also improve public health and environmental conditions through the sanitation component.

The results and recommendations of the EIA carried out in 2012, which covers both Phase 1 and 2, followed best environmental and social practices and are acceptable to the Bank. The results of the monitoring programme and the recommendations of the EIA report are still considered to be acceptable to the Bank. The project is not expected to have any significant negative impact on the environment nor any significant negative social impact with appropriate mitigation measures.

With the following conditions in place, the Project is acceptable for financing in environmental and social terms.

- Confirmation that compensation by ONEAD to those people affected by the project, in relation to the disbursement in question, has taken place (disbursement condition linked to works);
- the Environmental and Social Impact Assessment and the Environmental and Social Management Plan of the project component in relation with the disbursement is satisfactory to the Bank and sent to be published on the Bank's website, together with the favorable opinion of the competent authority in charge of the environment in Djibouti (disbursement condition linked to works);
- The promoter commits to comply with the recommendations of the project's ESMPs during the implementation of the project.